STANDARD ON-CALL AGREEMENT TASK ORDER
FOR
PIPELINE ENGINEERING ANALYSIS AND REHABILITATION CONSULTANT SERVICES

Task Order No.: KJ-006

Title: Coyote Creek Chiller Project – Design and Bid Support Services

Agreement: Standard On-Call Consultant Agreement **A4093A** ("Agreement") Between the Santa Clara Valley Water District ("District") and **Kennedy/Jenks Consultants** ("Consultant"), dated July 27, 2017.

District Project Manager: **Calvin Nguyen, P.E.**

Consultant Project Manager: **Joel A. Faller, P.E.**

Dollar Amount of Task Order: Not-to-Exceed $1,212,729.00

1. Upon full execution of this Task Order No. KJ-006, as set forth in the Standard On-Call Consultant Agreement, Section Twelve, subsection 13., Task Orders, and the issuance of a notice to proceed by the District, the Consultant is hereby authorized to perform the Services described in Attachment A to this Task Order. Any costs incurred, Services performed or expenditures by the Consultant before this Task Order is executed or before the issuance of the notice to proceed will be considered outside the contracted scope of Services and will not be eligible for payment.

2. Both the scope of Services to be performed and the deliverables to be provided in accordance with this Task Order are described in Attachment A which is attached hereto and incorporated by this reference. Attachment A shall include at a minimum the following:

   A. The Consultant personnel to be assigned to perform the Services, including resumes if not previously provided to the District.

   B. The total not-to-exceed fees amount for Consultant to complete the Services, including estimated number of hours required to perform the Services assigned to each Consultant classification.

   C. Estimated cost of each other direct cost and reimbursable expense, including any applicable fees.

   D. Project schedule for completing the Scope of Services.

3. The Consultant shall be compensated at fixed fees or at the hourly rates established in the Agreement, Attachment One to the Scope of Services, Fees and Payments. The Consultant agrees that it will provide all equipment, furnish all materials, except as may be otherwise noted in the Attachment A.

4. This Task Order will become effective on the date of full execution by authorized representatives of the Parties and remain in effect until the earlier of: termination of this Agreement; completion of the tasks set forth in Attachment A.

STANDARD ON-CALL AGREEMENT TASK ORDER
FOR
PIPELINE ENGINEERING ANALYSIS AND REHABILITATION CONSULTANT SERVICES

5. Copies of applicable local, state and federal permits required to perform the Services described in Attachment A are attached to this Task Order, unless the Consultant previously provided the appropriate permits to the District.

6. The Consultant shall perform all Services described in Attachment A to this Task Order in accordance with the terms and conditions of the Agreement.

7. Signatures:

Signature: DocuSigned by: Joel Faller 53919A8EEAD84A9... 12/2/2020

Kennedy/Jenks Consultants. DATE
Joel A. Faller, P.E.
Vice President

Signature: DocuSigned by: 09E2E1708C2D418... 12/7/2020

SANTA CLARA VALLEY WATER DISTRICT DATE
Heath McMahon, P.E.
Deputy Operating Officer

(REMAINDER OF PAGE INTENTIONALLY LEFT BLANK)

Kennedy Jenks

23 November 2020

Mr. Madhu Thummaluru
Valley Water
5750 Almaden Street Expressway
San Jose, CA 95118-3614

Subject: Proposal for Engineering Design and Bid Support Services
Coyote Creek Chiller Project
Valley Water On-Call Pipeline Engineering Contract

Dear Mr. Thummaluru:

Kennedy/Jenks Consultants (Kennedy Jenks) is pleased to submit our revised Scope of Work, Schedule and Budget for engineering services related to the design and bidding of the Coyote Creek Chiller Project (Project). The requested engineering design and bid support services will be authorized and performed as a task order in accordance with our On-Call Pipeline Engineering Services Contract with Valley Water (District) dated July 25, 2017.

Project Understanding and Scope of Work

Kennedy/Jenks proposes providing engineering design and bid support services for the Project under eleven tasks, this includes one optional task to provide a detailed surge analysis should it be recommended at the completion of the initial hydraulic evaluation. The enclosed Scope of Work provides Kennedy/Jenks' understanding of the Project and both an overview and detailed description of the proposed Scope of Work.

Schedule

Services related to design and bid support are projected to extend from December 2020 through November 2021. A detailed schedule is enclosed. Schedule milestones are as follows:

Task	**Milestone**
Notice to Proceed	December 2020
Complete Field Investigations	February 2021
Complete 50% Design	March 2021
Complete 90% Design	May 2021
Complete Bid Package	July 2021
Bid Opening	October 2021

275 Battery Street, Suite 550 | San Francisco, CA, 94111
415-243-2150 | FAX: 415-896-0999

Budget

A budget of $1,212,729 is proposed for the engineering services described in the enclosed Scope of Work. This includes a budget of $28,693 for the optional tasks. A breakdown of the proposed budget is provided in the enclosed fee estimate breakdown. A summary of the budget by task is as follows:

Task No.	Description	Budget[1]
Task 1	Project Management, Coordination, QA/QC	$170,218
Task 2	Meetings with District	$63,132
Task 3	Equipment Pre-Procurement Package	$84,638
Task 4	Field Investigations	$136,224
Task 5	Design Phase Permitting and Regulatory Support	$10,122
Task 6 - 8	Detailed Design	$673,784
Task 9	Construction Bid Services	$45,971
	Subtotal	**$1,184,090**
Task 10	Detailed Surge Analysis (Optional Task)	$28,639
	Total	**$1,212,729**

1. Budget values shown include KJ labor, subcontractor fees and expenses.

Proposed Project Team

Kennedy Jenks proposes the following team members for this project:

Kennedy Jenks

Joel Faller, Contract Administration
Don Ervin, Project Coordination
Ronald Walz, Design Manager
Ed Pascua, Mechanical Design Lead
Zachary Harris, Chiller Equipment Design
Jeff Mohr, Electrical/Instrumentation Design
Christy Suttich, Civil Design Lead

Subconsultants

Odell – Topographic Survey
ENGEO – Geotechnical Investigation
Flow Science – Hydraulics/Surge Analysis
Wilson Ihrig – Noise Abatement (new to team)
A.G.E. Consulting – MEP Consultant (new to team)

If you have any questions regarding our proposal, please contact Don Ervin at (650) 852-2821 or me at (415) 350-7805. Thank you for considering us for the Coyote Creek Chiller Project. We look forward to working with you on this project.

Very truly yours,

KENNEDY JENKS CONSULTANTS

Joel A. Faller, P.E.
Contract Project Manager

Encls: Scope of Work
Schedule
Proposal Fee Estimate

cc: Project File B10681001

Valley Water
Coyote Creek Chiller Project
Engineering Design and Bid Support Services – Scope of Work
23 November 2020

Project Understanding

Anderson Dam and Reservoir are located three miles east of U.S. 101 in Morgan Hill; the Reservoir is Santa Clara County's (County) largest surface water reservoir. The Reservoir is currently operated below the maximum levels due to seismic concerns. The Santa Clara Valley Water District (Valley Water) Anderson Dam Seismic Retrofit Project (ADSRP) and Anderson Dam Tunnel Project (ADTP) is being carried out to improve the reliability and safety of the dam and to allow a return of the Reservoir to its original design operating level and storage capacity.

The various Valley Water activities related to the FERC order are referred to as the FERC Order Compliance Project (FOCP). FERC is requiring Valley Water to begin a drawdown of the Reservoir to deadpool by 1 October 2020 and directed Valley Water to expedite construction of the diversion tunnel. The requirement to empty the Reservoir or drawdown to deadpool for extended periods could result in undesirable environmental impacts on the downstream waterbodies including Coyote Creek and the Coyote Percolation Pond.

The Cold-Water Management Zone (CWMZ) of Coyote Creek extends approximately 5 miles from the base of the Dam to Golf Course Drive. Valley Water plans to install chillers to cool imported water down to 16-18°C before releasing to Coyote Creek—based on historical data, imported water in Coyote Creek heats up to 24-25°C in the summer months. Coldwater management is intended to prevent downstream streamflow release to be too warm for federally threatened Oncorhynchus(O.) mykiss fish.

Valley Water plans to install chillers to cool up to 10 cubic feet per second (cfs) of imported water prior to its release into Coyote Creek via the existing Coyote Discharge Line to prevent downstream streamflow release to be too warm for O. mykiss. The two most likely site locations for installation of the chillers are along the alignment of the existing Coyote Discharge Line at either the Coyote Pumping Plant or Valley Water Warehouse both of which are located on Peet Road as shown in Figure 1.

Streamflow augmentation releases would be initiated at the end of the wet season and would be continued until the onset of winter rains. This measure is intended to maintain suitable water temperature for O. mykiss survival within the CWMZ during the implementation of the FOCP. It is understood that the chillers must be operational concurrent with Valley Water placing the Cross Valley Pipeline Extension into service.

Figure 1: Proposed Location(s) of the Coyote Creek Chillers

Scope Overview

This Design Scope of Services for the Coyote Creek Chiller Project (Project) is organized into three main components based on the development of the following three construction bid packages:

1. Chiller Request for Qualifications: An informal Request for Qualifications (RFQ) will be sent to prospective chiller equipment bidders to gain "proof of concept" feedback and help determine which specific features should be included in the pre-purchase solicitation package.

2. Chiller Pre-Procurement: This bid package will comprise specifications for the District's use in the pre-purchase of the chiller equipment system (skid mounted modular units) for construction which is identified as long-lead procurement item.

3. Chiller Installation and Construction: This bid package will comprise plans and specifications for installation and construction of the pre-purchased chiller equipment system at one of the three locations identified to be evaluate. It will include the installation of the skid mounted chiller units on concrete slabs with associated support facilities.

The scope of work will generally include the following:

- Confirming chiller sizing, space requirements and power/instrumentation needs.
- Preparing technical specifications for pre-purchase of long-lead chiller equipment.
- Performing hydraulic calculations to confirm booster pump sizing.
- Assisting the District in review of pre-purchase chiller equipment bids and recommendation for award of the chiller equipment supplier.
- Topographic surveying, geotechnical exploration, and utility locating.
- Designing mechanical, electrical and instrumentation connections for the new chiller system.
- Design of pipe connections to the existing water supply pipelines.
- Design of a visual barrier and/or acoustical conditioning system.
- Developing plans and specifications for the construction of the ancillary structures and facilities for installation of the new chillers.
- Providing engineering support as needed for Valley Water to procure bids for the construction of the Project

Scope of Work

Services under this Scope of Work will be provided under the following tasks and subtasks to support: 1) procurement of the long-lead chiller equipment, 2) installation and construction of the pre-purchased chiller equipment, 3) connection to the existing water supply pipeline.

- Task 1: Project Management, Coordination and Quality Assurance/Quality Control
    - 1.A – Project Set-up and Health & Safety
    - 1.B – Project Oversight and Subconsultant Management
    - 1.C – QC and C&CR
    - 1.D – Invoicing
- Task 2: Video/Conference Call Meetings with District
    - 2.A – Project Kick-off Meeting
    - 2.B – Site Selection Workshop
    - 2.C – Bi-Weekly Check-in Calls

  - 2.D – Chiller Evaluation Review Meeting
  - 2.E – 50% Design Review Meeting
  - 2.F – 90% Design Review Meeting
- Task 3: Equipment Pre-Procurement Package
  - 3.A – Informal Request for Equipment Qualifications
  - 3.B – Chiller Equipment Evaluation
  - 3.C – Equipment Pre-Procurement Document Assistance
  - 3.D – Equipment Pre-Procurement Bidding Support Services
  - 3.E – Equipment Pre-Procurement Bid Technical Review Services
- Task 4: Field Investigations / Studies
  - 4.A – Geotechnical Investigation/Analysis/Reporting
  - 4.B – Topographic Survey
  - 4.C – Existing Utility Investigation
  - 4.D – Hydraulic Evaluations
- Task 5: Design Phase Permitting and Easement Support Services
- Task 6: 50% Design
- Task 7: 90% Design
- Task 8: Bid Package
- Task 9: Construction Bid Services
  - 9.A – Pre-Bid Meeting and Site Visit
  - 9.B – Address Bidder Questions and Requests
  - 9.C – Addenda
  - 9.D – Conformed Documents
- Task 10: Detailed Surge Analysis (Optional Task)

Assumptions:

1. *Unless otherwise noted, all deliverables will be electronic, PDF and WORD format. Final design drawings will also be provided in AutoCAD 2018 format.*
2. *Unless otherwise noted, District will provide comments on each draft and interim deliverable within ten (10) business days of receiving the deliverable.*
3. *Comments generated by the District and its consultants regarding each deliverable will be provided to Kennedy Jenks as a single, consolidated set of comments in a tabular format. Disparities between comments will be resolved by the District prior to the District providing the comments to Kennedy Jenks.*
4. *A subcontract with A.G.E. Consulting is included to provide peer consultation related to chiller equipment design, installation and operation.*
5. *Level of effort assumes a suitable connection or similar close to the project site is available for all project related discharges such as warm water (if needed). Project does not include post-treatment of equipment reject, blowdown or cleaning flows.*
6. *The chiller equipment may be in a structure to mitigate noise. The level of effort includes the design of an equipment enclosure that is not designed for occupancy nor requiring architectural design.*

The following is a detailed description of the Scope of Work tasks listed above.

Task 1: Project Management, Coordination and Quality Assurance/Quality Control

This task includes project management, subconsultant management, coordination and project delivery services necessary to complete this scope of work over the duration of the Project. These tasks include managing in-house staff; managing subconsultants; monitoring the Design scope, schedule and budget; planning and monitoring Project activities; and keeping Project participants and District project management informed of progress, technical issues, and planned activities and events.

1.A Project Set-up and Health & Safety

Under this task, Kennedy Jenks will establish and maintain a Project account in its project documentation system to organize and track Project costs. Additionally, Kennedy Jenks will prepare a Health Appraisal and Recognition Plan (HARP) for field activities.

1.B Project Oversight and Subconsultant Management

This task involves overseeing and managing work tasks performed by Kennedy Jenks in coordination with activities of Kennedy Jenks' subconsultants and the District. It also involves managing Kennedy Jenks' subconsultants.

1.C QC and C&CR

Prior to the submittal of each deliverable, senior-level members of our staff with expertise in their respective engineering discipline will conduct a quality review of the deliverable. Kennedy Jenks will develop a quality control plan for conducting these reviews. The plan will also include holding an internal Concept and Criteria Review (C&CR) meeting toward the beginning of the project that involves a presentation, review, and discussion of the project concepts by the project team members and senior members of our QA/QC staff.

1.D Invoicing

Kennedy Jenks will prepare monthly invoices for services provided during the project duration, as well as brief written monthly reports on progress. Monthly reports will include a list of completed work, budget status, list of project issues (if any), and an updated Kennedy Jenks project schedule, should an update be needed.

Deliverables:
1. *Monthly invoices*
2. *Monthly reports*

Task 2: Video/Conference Call Meetings with District

This task includes web-based video/conference call meetings Kennedy Jenks will have with the District's project team. Kennedy Jenks will prepare and distribute an agenda prior to each meeting and summary notes after each meeting concludes. The agendas and notes will be provided for the District's review and records.

Kennedy Jenks shall prepare for and participate in the following meetings with the District. The meetings will be attended by up to three (3) Kennedy Jenks staff.

1. Project Kick-off Meeting
2. Bi-Weekly Check-in Calls
3. 50% Design Review Meeting
4. 90% Design Review Meeting

Assumptions:

1. *Due to COVID-19, the Santa Clara County's Shelter-in-Place order and Kennedy/ Jenks' Safer at Home program, it is assumed that the meetings will be virtual, web-based meetings rather than in-person meetings and as a result the budget does not include travel related costs.*

2.A Project Kick-off Meeting

Kennedy Jenks shall schedule, prepare for, attend, and conduct one (1) Project Kick-off Meeting with the District and key Kennedy Jenks team members. For budgeting purposes, the meeting is anticipated to have a 3-hour duration plus 1 hour for preparation. Agenda topics are anticipated to include discussions of Project stakeholders; planned roles and responsibilities of District and Kennedy Jenks staff; Project scope, schedule, and budget; project controls processes; deliverables; milestones and other key dates; and key technical issues.

Deliverables:
1. Meeting Agenda
2. Meeting Summary Notes

2.B Site Selection Workshop

Kennedy Jenks shall schedule, prepare for, attend, and conduct one (1) Site Selection Workshop with the District and Kennedy Jenks key team members. For budgeting purposes, the meeting is anticipated to have a 4-hour duration and 2 hours for preparation. A brief summary of the will be prepared to document the assessment criteria and basis for decisions regarding the selected project site location. Agenda topics are anticipated to focus on the pros, cons, costs, and risks of proceeding with the project at the three (3) sites shown in Figure 1.

Deliverables:
1. Meeting Agenda
2. Meeting Overview and Basis of Decision Summary

2.C Bi-Weekly Check-in Calls

Kennedy Jenks shall prepare for, attend, and conduct bi-weekly check-in calls with the District's Project Manager and others identified by the District's Project Manager. Each call will generally include a review of progress; discussion of items requiring feedback; discussion of outstanding issues requiring resolution; and a review of the status of scope, schedule and budget as appropriate. For the purposes of this scope of work and the related budget, a total of twenty-one (21) bi-weekly meetings are assumed. The calls are anticipated to have a 45-minute duration on average and will be attended by up to two (2) Kennedy Jenks staff.

Deliverables:

1. *Agenda*
2. *Summary Notes*

2.D Chiller Evaluation Review Meeting

This meeting will be used to discuss and decide on the chiller equipment type that will be pre-procured, a key decision that will allow the project to continue to progress; and agree on next steps and follow-up action items/communications. For budgeting purposes, the meeting is anticipated to have a 3-hour duration.

Deliverables:

1. *Review Meeting Agenda*
2. *Review Meeting Summary Notes*

2.E 50% Design Review Meeting

This meeting will be used to provide an overview of the documents submitted as part of the 50% Design; discuss the District's review comments related to the documents; update the District's project team on the overall status of the project including the preparation of permit support documents for the District's use with permit applications it prepares and the preparation of permit applications to be prepared by the Kennedy Jenks team; make key decisions that will allow the project to continue to progress; and agree on next steps and follow-up action items/communications. For budgeting purposes, the meeting is anticipated to have a 3-hour duration.

Deliverables:

3. *50% Design Review Meeting Agenda*
4. *50% Design Review Meeting Summary Notes*

2.F 90% Design Review Meeting

This meeting will be used to provide an overview of the documents submitted as part of the 90% Design; discuss the District's review comments related to the documents; update the District's project team on the overall status of the project including the preparation of permit support documents for the District's use with permit applications it prepares and the preparation of permit applications to be prepared by the Kennedy Jenks team; make key decisions that will allow the project to continue to progress; and agree on next steps and follow-up action items/communications. For budgeting purposes, the meeting is anticipated to has a 3-hour duration.

Deliverables:

1. *90% Design Review Meeting Agenda*
2. *90% Design Review Meeting Summary Notes*

Task 3: Equipment Pre-Procurement Package

Kennedy Jenks will assist/support the District with the pre-procurement of long-lead equipment as described below.

3.A Informal Equipment Request for Qualifications (RFQ)

Kennedy Jenks will lead an informal query of major equipment suppliers and provide project-specific design criteria information to potential interested suppliers to help inform the District regarding project equipment selection and confirm estimated project pricing estimates. Kennedy Jenks will gather this information via email to obtain project specific information from equipment suppliers.

Deliverables:
1. Draft project description and design criteria table.
2. Final project description and design criteria table.

Assumptions:
1. Kennedy Jenks will send the project description and design criteria to prospective suppliers via email and request a budget quote and related equipment information such as ambient noise and equipment size/layout.

3.B Chiller Equipment Evaluation

Kennedy Jenks will evaluate two (2) of the most likely selections: 1) cooling tower and 2) water cooled packaged chiller systems, relying in part on the information received from the suppliers that responded to the RFQ. Kennedy Jenks will also evaluate other project design criteria associated with the chiller system, including optimal number of chiller units, accessory heat exchangers, pumps, and filter systems. The evaluation will be documented in a technical memorandum (3 to 5 pages).

Deliverables:
1. Draft TM
2. Final TM

3.C Equipment Pre-Procurement Document Assistance

Kennedy Jenks will develop the chiller equipment technical specification based on the selected equipment approach. Supporting specifications will be provided by the District including the preparation of front-end contract documents that will be needed to develop pre-procurement packages to competitively pre-purchase the chiller equipment:

Assumptions:
1. Services exclude the review of the District's front-end contract documents.

Deliverables:
1. Draft Equipment Technical Specifications for Pre-procurement Package
2. Final Equipment Technical Specifications for Pre-procurement Packages

3.D Equipment Pre-Procurement Bidding Support Services

Kennedy Jenks will provide technical support to the District during the competitive bidding of the pre-procurement of the equipment. This will include preparing responses to technical, non-administrative questions from bidders for the District's use and providing clarifications for the District's use in up to two addenda.

Assumptions:

1. *The District will lead the bidding process (administer, advertise, distribute bid documents, maintain the list of bidders, distribute addenda, receive bidder's questions, receive bids.*

Deliverables

1. *Content for Equipment Pre-procurement Package Addenda (up to two).*

3.E Equipment Pre-Procurement Bid Technical Review Services

Kennedy Jenks will assist the District with the review of the bids the District receives for pre-procurement of the equipment. Services will include a review for overall technical compliance with the specifications and preparing technical bid evaluation tables.

Deliverables:

1. Technical Bid Evaluation tables for each type of equipment (up to three (3))

Task 4: Field Investigations / Studies

4.A Geotechnical Investigation/Analyses/Reporting

To characterize the subsurface conditions for design, we propose to explore the site by drilling borings at various locations. We will retain the services of ENGEO to drill 3 hollow-stem auger borings to depths of approximately 25 feet below existing grade with a truck-mounted drill rig. Boreholes will be backfilled with cement grout and a cold patch asphalt will be applied to the upper 4 inches if the borehole is located in a paved area.

Prior to drilling, ENGEO will notify Underground Service Alert (USA) at least 48 hours prior to performing the subsurface exploration to locate public utilities near the explorations. ENGEO will also retain a private utility locating subcontractor to walk and mark the exploration locations to assess if existing utilities not marked by USA are present at the exploration locations.

An ENGEO engineer or geologist will observe the drilling operations and log the subsurface conditions encountered. Select soil samples will be recovered at frequent intervals for visual classification and laboratory testing.

The drilling contractor will be responsible for drumming, analytical testing, and appropriately disposing the soil cuttings. Prior to receiving the analytical results to determine proper disposal,

the drums will be stored on site. ENGEO's scope assumes the cuttings will meet the requirement of Class II disposal facilities. Valley Water will be responsible for signing waste disposal certificates as the "Generator."

ENGEO will test representative soil samples from the exploratory locations in their laboratory to determine some of their engineering properties consisting of moisture-density, sieve analysis, plasticity index, corrosion tests, and strength testing for this project. ENGEO will analyze the subsurface conditions and laboratory test results, and prepare a geotechnical report that will consist of the following:

- Suitability of the site for the proposed chiller project
- Assessment of geological hazards, site seismicity and seismic hazards, including the potential for liquefaction, lateral spreading, and estimated seismically induced settlement. as applicable
- Treatment of geotechnical constraints such as loose/soft surface soils, existing fills, compressible soils, expansive soils, liquefiable soils, and lateral spreading, as necessary, based on field exploration results
- Analysis of potential total and differential settlement due to liquefaction and consolidation, as appropriate
- Conceptual measures to mitigate hazards, geotechnical constraints, and predicted settlements, as appropriate
- Site grading recommendations, including fill placement recommendations, utility backfill, and
  recommendations for site drainage
- Foundation design recommendations for recommended foundation type(s) and California Building Code (CBC) seismic criteria
- Soil corrosion recommendations based on soil corrosion testing.
- Conventional retaining wall recommendations

The geotechnical report will include a summary of the surface and subsurface conditions, seismicity, laboratory test data, boring log data, and a site plan showing the exploratory locations and improvement limits. The report will be signed by a licensed California Geotechnical Engineer.

Assumptions:

1. *Valley Water will facilitate ENGEO's and its subcontractors' access to the planned locations of borings and, as necessary, obtain rights to enter.*
2. *Prior to drilling, ENGEO will notify Underground Service Alert (USA) at least 48 hours prior to performing its planned field exploration work, engage the services of a private utility locating subcontractor to walk and mark the exploration locations to assess if existing utilities not marked under USA are present, and coordinate with pertinent permitting agencies (Valley Water and City of Morgan Hill).*
3. *Soil cuttings will be sampled, drummed, stored at a location(s) near the borings as approved by the District, and disposed off site after completion of analytical characterization of the*

cuttings to determine a proper disposal facility. The District will be responsible for signing waste disposal certificates as the "Generator." For budgeting purposes, it is assumed the cuttings will meet the requirements for disposal at a Class II disposal facility.

4. *If potentially hazardous materials are identified visually or by odor within the exploratory borings, Valley Water will be notified as soon as possible of such an occurrence. The field exploration will be terminated unless Valley Water provides written authorization to proceed. Costs incurred as a result of encountering suspected hazardous materials will be charged on a time-and-expense basis, which may be over and above the proposed budget for the exploration.*
5. *Boreholes will be backfilled in accordance with requirements outlined in the drilling permits. Cold patch asphalt will be applied in the upper 4 inches of boreholes located in paved areas.*
6. *The proposed scope of work excludes fault exploration(s).*

Deliverables:

1. *Geotechnical Investigation Work Plan*
2. *Data Report (Draft and Final)*
3. *Geotechnical Report (Draft and Final)*

4.B Topographic Survey and Potholing

Kennedy Jenks, through the services of O'Dell Engineering, shall provide topographic and boundary surveying services as well as potholing and utility survey.

Topographic Survey and Mapping

Perform topographic survey of all hardscape and softscape, including grade breaks, high points, low points. In flat areas, measure spot elevations in a grid pattern at 25-foot intervals. Locate surface-visible utility features and improvements, such as: signs, fences, walls, buildings, striping, driveways, walkways, drainages, structures, lights, poles, bollards, general limits of vegetated or landscaped areas, USA markings, vaults, valves, meters, boxes, pedestals, cleanouts, manholes, drain inlets, catch basins, culverts, outfalls, and standpipes. Trees 6" in diameter or larger will be located. At manholes and accessible structures measure invert elevation of all gravity storm drains and sewer pipes.

Annotate topographic survey drawing with invert elevation, approximate diameter, and orientation of each pipe visible at the time of the survey. Where access is not practical, O'Dell Engineering shall indicate by notation on the mapping deliverable. Prepare topographic map at a 1" = 10' scale.

Subsurface Utility Locating and Mapping

Query the USA North Design Inquiry Database to identify all registered utility operators who may have facilities in or near the project area. Each identified operator will be contacted to request copies of as-built drawings, maps, or other exhibits depicting their subsurface utilities. Contract with a subsurface utility locating specialist to locate subsurface utilities in the project area using electromagnetic induction and/or ground penetrating radar (GPR) techniques. Where utilities are

found to be traceable, they will be marked on the ground. Depths will be provided when possible. Utility location markings will be field surveyed. Utility information, including the results of the requests submitted to utility operators, will be mapped.

Underground Utility Potholing

Odell will contract with an underground utility pothole contractor to pothole selected underground utilities at up to five (5) locations. Potholes will be excavated using vacuum or water jet methods. Upon completion of potholing activity, the location of the potholes and any residual markings will be field surveyed to determine their horizontal location and elevation. Using a combination of field survey data and information provided in the pothole report provided by the contractor, the Task 1 topographic survey base map deliverables will be updated to depict the results of the potholing effort.

Record Boundary

Determine record location of property boundaries and easements as defined by an analysis of record maps, physical evidence, and any other client-provided information. This is not a fully resolved boundary. Excludes setting of monuments or filing maps/corner records.

Assumptions:

1. *Mapping Limits: The precise location of the subject area has not yet been determined. This proposal includes one (1) roughly rectangular area, up to approximately ½ acre in size, situated on or about either of those areas identified in the exhibit provided by the District (Figure 1), and by this reference made a part hereof. Significant deviations shall be subject to renegotiation of costs.*
2. *Survey deliverables will be based on the NAD83 horizontal datum and the NAVD88 vertical datum using the District's benchmarks. A 3-point survey control statement will be provided.*
3. *Scope does not include survey monument preservation as defined and required by Section 8771 of the professional Land Surveyor's Act.*
4. *Scope excludes setting of monuments or filing maps/corner records.*

Deliverables:

1. *Deliverables related to the topographic survey will be incorporated into and made a part of the design drawings.*
2. *Digital copy of the topographic survey in AutoCAD Civil 3D 2018 format.*
3. *PDF copies of utility as-built plans used to create utility facility mapping.*
4. *PDF copy of utility locating report.*
5. *Digital copy of the record boundary linework in AutoCAD Civil 3D 2018 format.*

4.C Noise Assessment and Acoustic Consultation

Kennedy Jenks, through the services of Wilson Ihrig, shall research applicable noise limits by the City of Morgan Hill for mechanical equipment/stationary sources. The City General Plan (Policy SSI-8.6) indicates that noise levels from stationary sources should be addressed if they

substantially exceed existing ambient noise levels per land use. The City Land Use Ordinance (Chapter 18.78.090) lists not-to-exceed noise levels. Therefore, a multi-day noise study to determine the ambient is required for the General Plan policies.

Noise Measurements and Evaluation

Long-term (2 days minimum) and short-term noise measurements of the prevailing ambient noise at areas surrounding the Project site. Second site visit to retrieve equipment. Laboratory analysis of measured data. Review noise data for two design configurations of proposed new chillers, cooling towers, and pumps assumed to be grouped in a common area on the Coyote Pumping Station property. Review equipment installation and support details. Perform calculations and determine expected levels of noise at property lines. Compare those with City requirements.

Should the expected level of noise from the new equipment require mitigation to comply with City's requirement, then Wilson Ihrig will study and propose up to two noise control measures for each of the two design configurations.

Report

Prepare letter report to demonstrate compliance stating results from ambient noise survey, predicted noise levels from new equipment, and recommended mitigation recommendations, if any are proven to be necessary.

Design Related Services

Provide technical support services as the design continues to develop. This includes review of 50% and 90% design review documents and responses to District and public questions and comments for noise control elements and minor re-analysis of equipment noise levels if there are significant design changes after the initial noise assessment report is provided.

Prepare for and attend Design Review Progress Meetings with design team and Client at 50%, and 90% design milestones. It is assumed that these meetings will be no more than 2 hours in duration. It is assumed that the Wilson Ihrig will participate in these meetings via teleconference/web-based meetings for budgeting purposes.

Assumptions

a. This scope of work proposal presents an estimate of the expected cost to conduct noise mitigation design for a typical installation. Should the analysis and design of needed mitigation options require efforts beyond those normally necessary, such as multiple design options, then a proposal to cover additional work will be provided.

b. Kennedy Jenks' design of noise mitigation measures will be based on Wilson Ihrig''s input and oversight.

4.D Hydraulic Evaluations

Kennedy Jenks, through the services of Flow Science Incorporated, shall perform an evaluation of the potential hydraulic impacts of the new Coyote Creek chiller system on the existing pipeline infrastructure and a determination of the required hydraulic design criteria for the Coyote Creek Chillers based on the findings. These services will be provided as two subtasks:

4.D.1 – Preliminary Screening/Assessment

Flow Science Incorporated will perform a desktop evaluation of the District's existing infrastructure related to the Coyote Creek Chiller project. The evaluation will be used to gain an understanding of the hydraulic operation of the Chiller installation upstream and downstream of the planned point of connection and to conduct a 'screening level' assessment of the relative/potential risk from problematic pressure surges following installation and operation of the Ciller system.

Based on the assessment, Flow Science will provide a recommendation on whether an additional, detailed surge analysis is warranted. Should a detailed surge analyses be recommended, services related to the analysis would be provided as an optional service under Task 10 as described below. The work of Subtask 4.D.1 will be summarized in a brief technical memorandum.

Deliverables:

1. *Preliminary screening/assessment technical memorandum.*

4.D.2 - Design Technical Input

Based on the findings of the preliminary screening/assessment, Flow Science Incorporated will provide input on the valve operational timing for the flow control system to be installed as part of the project.

Deliverables:

1. *Recommendations made regarding the services of this subtask will be incorporated into the design drawings and specifications.*

Task 5: Design Phase Permitting and Utility Support Services

Kennedy Jenks will assist the District with acquiring permits needed to complete the design and construction of the Project and coordination with the the City of Morgan Hill. Kennedy Jenks understands that the District will take the lead and not require much in the way of assistance in acquiring permits and approvals from the United States Bureau of Reclamation (USBR). Permitting activities are budgeted based on obtaining building permit the City of Morgan Hill and assistance with sewer connection technical support should a connection be needed.

Assumptions:

1. *The District will prepare, monitor and pay for all permits and permit application fees.*
2. *The Contractor's QSD will prepare a Construction Stormwater Pollution Prevention Plan (SWPPP) for the project and the District will submit the plan online as LRP.*

Deliverables:

1. *Permit support documents*

Detailed Design

The detailed design will include the preparation of engineering drawings and specifications suitable for competitive public bidding. The drawings and specifications will be prepared in four progressive stages of design (50%, 90%, Bid) under four separate tasks as described below with District reviews of the 50% and 90% Design documents. The bid documents will include drawings and/or specifications, as appropriate, for the following engineering design components:

- General
- Civil
- Structural
- Mechanical
- Electrical
- Instrumentation

Drawings will be prepared in conformance with the requirements of the District's Consultant CADD Standards (July 2019) using AutoCAD 2018 and set up in an ANSI D (22" x 34") format for full-size drawings and an ANSI B (11" x 17") format for half-size drawings. Full-size drawings will be submitted in PDF format for all deliverables. In addition, CAD files of the Bid drawings will be submitted. A preliminary list of drawings to be included in the Contract Documents is provided in Attachment A at the end of this Scope of Work. The list includes an indication of the drawings that will be included in the set of documents prepared for each stage of design.

The technical specifications will be prepared using the District's Technical Provisions as a guide and conforming to the Construction Specifications Institute (CSI) 2016 (6-digit) format, modified as appropriate for the Project as determined necessary by Kennedy Jenks. Specifications for the Contract Documents will be prepared by combining the technical specifications with the District's Standard Provisions and Special Provisions.

Preparation of the specifications for the Contract Documents will include a review of the District's Standard Provisions and Special Provisions to understand their content, terms, and conditions to allow a coordinated preparation of the technical specifications and drawings. It will also include revisions to the District's Special Provisions template to incorporate project-specific requirements using copies of the Special Provisions from other District projects as a guide.

Assumptions:

1. Civil design assumptions:

a. The 42-inch Coyote Discharge Line and Anderson force main are bar-wrapped steel pipe, mortar lined and coated.
b. Drain connection to local sewer is not included, can be added by amendment if needed.

2. Mechanical design assumptions:

- *a. The chiller equipment design will be based on the supplier selected during the pre-procurement in Task 3.*
- *b. The design will include taps for the installation of future buffer tankage.*
- *c. The chilled water creek release system will not operate on loss of primary electric power; standby power shall be provided for system controls*
- *d. A blend tank or buffer tank will not be needed based on an initial assessment that the existing Coyote Discharge Line would provide sufficient volume to preclude the need for a separate blend or buffer tank.*
- *e. If cooling tower option is selected:*
  - *make-up water (up to 120 gpm - Summer) will be supplied from sidestream of 'process' water system*
  - *Cooling Tower blowdown (up to 30 gpm - Summer) will be discharged from system through new sewer connection to City of Morgan Hill collection system*
  - *Cooling Tower blowdown discharged to sewer shall not exceed 95 F*
- *f. If water-cooled option is selected:*
  - *a sidestream of the process water system (up to 6000 gpm - Summer) will be drawn from the transmission main for condenser water cooling and returned to the transmission main*
  - *Sufficient transmission flowrate shall be available to limit heat gain from the sidestream used for condenser water cooling to not more than 2 degrees F in transmission line*

3. Electrical design assumptions:

- *a. The project will tie into the existing District-owned 4160V switchgear (either SWGR-114 or 214) and a new 600A breaker to feed the chiller site pad mounted 4160-480V step down transformer.*
- *b. Design an underground duct bank with 2 new 4"C and 2 spare 4" conduits from the switchyard to the project site. The spares to be included for future connection to new double ended switchgear that will be designed in a future power system upgrades project*
- *c. Design of a new 2MVA 4160-480V transformer, and space for a future 2MVA transformer to facilitate a double ended system as part of a future power system upgrade project*
- *d. Design a 4000A, 480V switchgear with a 4000A main breaker and tie breaker, with provisions for a future 4000A main breaker to facilitate a double ended system as part of a future power system upgrade project*
- *e. Design switchgear feeder breakers to provide overcurrent protection for the chiller skids and feed a 480V MCC for pump station load requirements*
- *f. Design step down transformer (120/208V) for auxiliary loads*
- *g. Design 125VDC battery system in a separate AC controlled enclosure for circuit breaker electric operation*
- *h. Provide control interface between a Master PLC and Chiller skid mounted PLC*
- *i. Provide network interconnection from Master PLC to District PLC*

Task 6: 50% Design

This task will include the preparation of drawings and specifications developed to a 50% level of completion and a related opinion of probable construction cost (OPCC). The documents prepared will be grouped into a 50% Design submittal package and submitted to the District for its review.

Drawings will show the arrangement of the new chiller equipment systems including the location of major features, limits of construction and interface with existing pipelines, power and instrumentation. The planned locations of temporary construction staging areas will be shown as well. Drawing backgrounds will be developed based on the topographic survey conducted as pat of the project. Additionally, existing utilities will be shown on the drawing backgrounds based on the results of the subsurface utility investigation. Specifications will include draft technical specifications for major components of work.

The 50% Design will also include development of an OPCC. The OPCC will be prepared based on quantity take-offs from the 50% Design drawings. The OPCC will be a Class 3 Estimate as defined by AACE International. Additionally, the 50% Design will include development of a conceptual construction schedule. The primary purpose of the schedule will be to determine an allowable duration of construction.

Assumptions:

1. *The chiller system will be installed at grade within a screen wall type enclosure. No building or canopy will be designed.*
2. *Modifications to large complex distribution systems and related pump stations, control valves can result in unforeseen impacts in the system. The Kennedy Jenks team will perform a hydraulic analysis based on District-provided information to attempt to identify and mitigate those potential impacts. It is understood that all the possible operating conditions cannot be identified and evaluated and therefore Kennedy Jenks nor its subconsultants shall not be held responsible for unforeseeable impacts resulting from its design of the connection of the chillers to the CVP system.*

Deliverables:

1. *50% Design Drawings*
2. *50% Design Special and Technical Specifications*
3. *Class 4 OPCC*
4. *Conceptual Construction Schedule*

Task 7: 90% Design

This task will include the preparation of drawings and specifications developed to a 90% level of completion and a related OPCC. The documents prepared will be grouped into a 90% Design submittal package and submitted to the District for its review. District comments on the documents included in the 50% Design submittal package received by Kennedy Jenks will be incorporated into the 90% Design documents. The 90% Design specifications will include a complete set of

technical specifications and special provisions and copies of the District's Standard Provisions tailored to include provisions specific to the Project.

As part of this task, the OPCC prepared for the 50% Design will be reviewed and updated to reflect the additional detail included in the 90% Design documents. The 90% Design OPCC will be a Class 2 Estimate as defined by AACE International. Additionally, the conceptual construction schedule developed for the 50% Design will be reviewed and updated as appropriate.

Also, Kennedy Jenks will prepare written responses to comments on the 50% Design documents received from the District as part of the 90% Design.

Deliverables:
1. *90% Design Drawings*
2. *90% Design Special and Technical Specifications*
3. *Class 2 OPCC*
4. *Updated Conceptual Construction Schedule*
5. *Tabulated responses to comments on the 50% Design documents*

Task 8: Bid Package

Kennedy Jenks shall incorporate District review comments on the 90% Design package and prepare the Bid Package under this task. The Bid Package will include completed drawings and specifications appropriately sealed and signed by the registered professionals responsible for their content. The sealed and signed drawings and specifications will be provided to the District for its use in competitive public bidding for construction of the project. In addition, Kennedy Jenks will prepare written responses to comments on the 90% Design documents received from the District.

Deliverables:
1. *Stamped and signed Drawings*
2. *Stamped and signed Specifications*
3. *Signed and sealed calculations*
4. *Class 2 OPCC*
5. *Updated Conceptual Construction Schedule*
6. *Tabulated responses to comments on the 90% Design documents*

Task 9: Construction Bid Services

Kennedy Jenks will provide technical engineering support to the District during the bidding and award phase of the construction phase as part of this task.

Assumptions:
1. *The District will post and distribute the bid documents for the solicitation of construction bids, and will receive, log, open, and record the bids received.*
2. *The District will prepare and maintain a list of bid document holders.*

3. *The District will post and distribute addenda and other similar documents to the holders of bid documents.*

9.A Pre-Bid Meeting and Site Visit

Kennedy Jenks shall support the District with the Pre-Bid Meeting by reviewing and providing comments on an agenda and summary prepared by the District and providing an overview of the technical aspects of the project design during the Pre-Bid Meeting. Further, Kennedy Jenks will accompany the District during the Site Visit. One (1) Kennedy Jenks team member will participate in one (1) Pre-bid Meeting and one (1) Site Visit.

Assumptions:
1. *The District will schedule, organize, and conduct/lead the Pre-Bid Meeting and Site Visit.*
2. *The District will prepare agenda and summaries/notes related to the Pre-Bid Meeting.*
3. *The Pre-Bid Meeting may be virtual rather than in-person.*

Deliverables:
1. *Comments on the Pre-bid Meeting Agenda prepared by the District*
2. *Comments on the Pre-bid Meeting Summary/Notes prepared by the District*

9.B Address Bidder Questions and Requests

Under this task, Kennedy Jenks will review, and log written questions related to the technical requirements of the bid documents submitted to the District by bidders and provided to Kennedy Jenks. Kennedy Jenks will provide the District with question responses that do not change the requirements of the bid documents. Questions that prompt the need to change the bid document requirements will be so noted and any needed changes will be prepared for inclusion in an addendum as part of Task 9.C. For budgeting purposes, it is assumed that Kennedy Jenks will review and prepare responses for up to thirty (30) questions.

Assumptions:
1. *The District will screen bidder questions and forward only those pertaining to the technical requirements of the bid documents to Kennedy Jenks. This District will address questions that pertain to the non-technical/administrative aspects of the bid documents.*

Deliverables:
1. *Written responses to bidder's questions (up to thirty (30))*

9.C Addenda

Under this task, Kennedy Jenks shall prepare addenda during the bid period that clarify or change the requirements of the technical design of the bid documents. This shall include needed changes that arise through bidder's questions. For budgeting purposes, it is assumed that Kennedy Jenks shall prepare up to three (3) addenda.

Assumptions:

1. *The District will distribute addenda prepared by Kennedy Jenks to bid document holders.*
2. *As necessary, the District will prepare addenda that clarify or change the non-technical/administrative aspects of the bid documents.*

Deliverables:

1. *Addenda (up to three (3))*

9.D Conformed Documents

Kennedy Jenks shall prepare a set of conformed construction documents under this task. The conformed documents shall be composed of the drawings and specification issued for bidding revised to include revisions made by addendum. Revisions shall follow existing protocols established by the District, if any.

Deliverables:

1. *Conformed Drawings*
2. *Conformed Specifications*

Task 10: Detailed Surge Analysis (Optional Task)

If a surge analysis is recommended by the Kennedy Jenks team based on the findings of the preliminary screening/assessment conducted as part of Task 4.D and contingent on the District's authorization, Kennedy Jenks shall, through the services of Flow Science Incorporated, develop a surge model for the portions of the project relevant to the chiller equipment installation. The model will be used to establish initial non-transient hydraulic grade line (HGL) elevations for operation of the system under maximum and minimum demands and water supply levels and to perform simulations for pump power failure (if warranted) and/or valve operations under maximum and minimum demands and water supply levels. As appropriate, the results of the analyses will be used to develop recommendations for measures to implement to mitigate adverse surges as they relate to the chiller project. The results of the analyses and related recommendations will be summarized in a technical memorandum.

Assumptions:

1. *The design of recommended surge control measures is excluded from the scope of work. Recommended surge control measures will be reviewed with the District and mutually agreed to for implementation. A scope and budget for the design of agreed-to surge control measures will be prepared and provided to the District for inclusion in the scope of work by amendment.*

Deliverables:

1. *Draft Surge Analysis Technical Memorandum.*
2. *Tabulated comment responses for Draft Surge Analysis Technical Memorandum*
3. *Final Surge Analysis Technical Memorandum.*

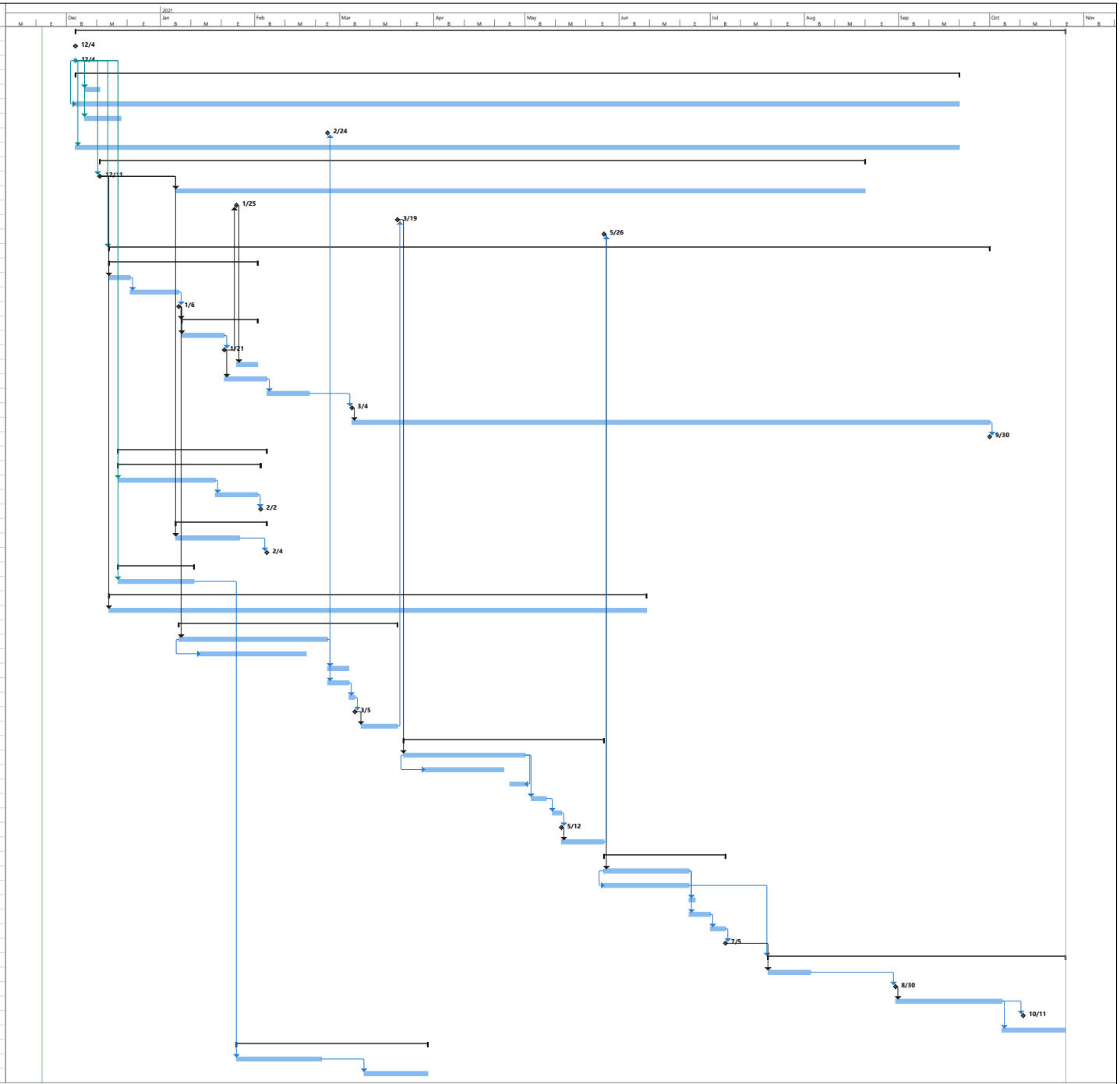
Appendix A – Preliminary List of Drawings

Sheet	Description	50% Design Submittal	90% Design Package
General			
G-1	Cover Sheet	1	1
G-2	Index Map / Drawing Index	1	1
G-3	Abbreviations and Symbols	1	1
G-4	Design Data / Flow Schematic	1	1
G-5	Conditional Approval		1
G-6	General Notes Sites Logistics Plan		1
Civil			
C-1	Civil Legend, Symbols and Abbreviations	1	1
C-2	Overall Site and Staging Plan		1
C-3	Existing Conditions and Demolition Plan	1	1
C-4	Horizontal Control and Paving Plan	1	1
C-5	Grading and Drainage Plan	1	1
C-6	Yard Piping Plan	1	1
C-7	Yard Piping Sections and Details		1
C-8	Pipeline Connection Details	1	1
C-9	Civil Details I		1
C-10	Civil Details II		1
Structural			
S-1	Structural General Notes	1	1
S-2	Structural Standard Details I	1	1
S-3	Structural Standard Details II		1
S-4	Structural General Abbreviations	1	1
S-5	Miscellaneous Metal Details		1
S-6	Seismic Notes and Details		1
S-7	Special Inspection and Testing		1
S-8	Chiller Equipment Foundation Plan	1	1
S-9	Chiller Equipment Sections	1	1
S-10	Equipment Structure Plan		1
S-11	Equipment Structure Sections		1
S-12	Equipment Structure Sections and Details		1
S-13	Acoustic / Visual Barrier Details 1		1
S-14	Acoustic / Visual Barrier Details 2		1
S-15	Electrical Equipment Pads, plan and details		1

Sheet	Description	50% Design Submittal	90% Design Package
Mechanical			
M-1	Mechanical Legend, Abbreviations, and Symbols	1	1
M-2	Mechanical Equipment Schedules		1
M-3	Piping Standard Details		1
M-4	Mechanical Details I	1	1
M-5	Mechanical Details II		1
M-6	Chiller Plant - Plan (four skids)	1	1
M-7	Chiller Unit - Enlarged Plan (single skid)	1	1
M-8	Chiller Unit - Sections I	1	1
M-9	Chiller Unit - Details I	1	1
M-10	Chiller Unit - Sections/Details II		1
M-11	Booster Pump Station Plans	1	1
M-12	Booster Pump Station Section and Details		1
Electrical			
E-1	Electrical Abbreviations, Symbols & Legend	1	1
E-2	Electrical Details I		1
E-3	Electrical Details II		1
E-4	Overall Electrical Site Plan		1
E-5	Chiller System Single Line Diagram	1	1
E-6	Booster Pump Station Single Line Diagram	1	1
E-7	Control Wiring Diagrams		1
E-8	Luminaire and Panelboard Schedules		1
E-9	Electrical Site Details		1
E-10	Equipment Elevation		1
E-11	Conduit Routing Block Diagram		1
E-12	Conduit and Cable Schedule		1
E-13	Chiller System Power and Control Plan		1
E-14	Chiller System Lighting, Receptacle and Grounding Plan		1
E-15	Booster Pump Station Power and Control Plan		1
E-16	Booster Pump Station Lighting, Receptacle and Grounding Plan		1

Sheet	Description	50% Design Submittal	90% Design Package
Instrumentation			
I-1	P&ID Process Legend	1	1
I-2	P&ID Instrumentation Legend	1	1
I-3	Instrumentation Details	1	1
I-4	P&ID - Chiller 1	1	1
I-5	P&ID - Chiller 2	1	1
I-6	P&ID - Chiller 3	1	1
I-7	P&ID - Chiller 4	1	1
I-8	P&ID - Chiller Support	1	1
I-9	P&ID - Booster Pump Station	1	1
I-10	RTU Network Block Diagram		1
I-11	RTU Panel Layout		1
I-12	PLC Details		1

ID	Task Name	Duration	Start	Finish	Predecessors
1	**VW Coyote Creek Chiller Engineering Phase**	**225 days**	**Fri 12/4/20**	**Mon 10/25/21**	
2	**Notice to Proceed**	**0 days**	**Fri 12/4/20**	**Fri 12/4/20**	
3	NTP	0 days	Fri 12/4/20	Fri 12/4/20	
4	**Task 1 - Project Management**	**200 days**	**Fri 12/4/20**	**Mon 9/20/21**	
5	HARP	5 days	Mon 12/7/20	Fri 12/11/20	3FS+1 day
6	Project Oversight and Subconsultant Management	200 days	Fri 12/4/20	Mon 9/20/21	3SS
7	Quality Control Plan (QCP)	10 days	Mon 12/7/20	Fri 12/18/20	3FS+1 day
8	Internal Concept & Criteria Review (C&CR)	0 days	Wed 2/24/21	Wed 2/24/21	43
9	Progress Reporting / Tracking	200 days	Fri 12/4/20	Mon 9/20/21	3
10	**Task 2 - Meetings with District**	**173 days**	**Fri 12/11/20**	**Fri 8/20/21**	
11	Kickoff Meeting	0 days	Fri 12/11/20	Fri 12/11/20	3FS+6 days
12	Bi-Weekly Check-in Calls	163 days	Wed 1/6/21	Fri 8/20/21	11FS+10 days
13	Chiller Eval Review Meeting	0 days	Mon 1/25/21	Mon 1/25/21	23FS+2 days
14	50% Design Review Meeting	0 days	Fri 3/19/21	Fri 3/19/21	49
15	90% Design Review Meeting	0 days	Wed 5/26/21	Wed 5/26/21	57
16	**Task 3 - Equipment Pre-Procurement Package**	201 days	Tue 12/15/20	Thu 9/30/21	3
17	**RFQ Equipment Document Assistance**	**28 days**	**Tue 12/15/20**	**Mon 2/1/21**	
18	Dev and Send RFQ	5 days	Tue 12/15/20	Mon 12/21/20	11FS+1 day
19	Vendor RFQ Prep	5 days	Tue 12/22/20	Wed 1/6/21	18
20	RFQs Received	0 days	Wed 1/6/21	Wed 1/6/21	19
21	**Chiller Evaluation**	**17 days**	**Fri 1/8/21**	**Mon 2/1/21**	**20**
22	Prepare draft eval TM	10 days	Fri 1/8/21	Thu 1/21/21	20FS+1 day
23	Submit draft TM	0 days	Thu 1/21/21	Thu 1/21/21	22
24	Final TM and Submit	5 days	Tue 1/26/21	Mon 2/1/21	13
25	Equipment Pre-Procurement Document Assistance	10 days	Fri 1/22/21	Thu 2/4/21	23
26	Equipment Pre-Procurement Bidding Services Suppor	10 days	Fri 2/5/21	Thu 2/18/21	25
27	Equipment Pre-Procurement Supplier Issued NTP	0 days	Thu 3/4/21	Thu 3/4/21	26FS+10 days
28	Chiller Submittals/Fab/Ship (assume 30 weeks)	150 days	Fri 3/5/21	Thu 9/30/21	27
29	Chillers Delivered	0 days	Thu 9/30/21	Thu 9/30/21	28
30	**Task 4 - Field Investigations / Studies**	**28 days**	**Fri 12/18/20**	**Thu 2/4/21**	
31	**Geotechnical Investigation Analyses**	**26 days**	**Fri 12/18/20**	**Tue 2/2/21**	
32	Geotechnical Field Work	15 days	Fri 12/18/20	Mon 1/18/21	3FS+10 days
33	Geotechnical Report - Draft	10 days	Tue 1/19/21	Mon 2/1/21	32
34	Geotechnical Report - Final	0 days	Tue 2/2/21	Tue 2/2/21	33FS+1 day
35	**Topographic Survey / Potholing**	**22 days**	**Wed 1/6/21**	**Thu 2/4/21**	
36	Topographic Survey Field Work	15 days	Wed 1/6/21	Tue 1/26/21	11FS+10 days
37	Provide Survey Data	0 days	Thu 2/4/21	Thu 2/4/21	36FS+7 days
38	**Hydraulic Evaluations**	**10 days**	**Fri 12/18/20**	**Mon 1/11/21**	
39	Preliminary Screening/Assessment	10 days	Fri 12/18/20	Mon 1/11/21	3FS+10 days
40	**Task 5 - Design Phase Permitting Support Services**	**120 days**	**Tue 12/15/20**	**Wed 6/9/21**	
41	Bldg and Sewer Permit Support	120 days	Tue 12/15/20	Wed 6/9/21	11FS+1 day
42	**Task 6 - 50% Detailed Design**	**52 days**	**Thu 1/7/21**	**Fri 3/19/21**	
43	50% Design Drawings	35 days	Thu 1/7/21	Wed 2/24/21	20
44	50% Design Specifications	25 days	Thu 1/14/21	Wed 2/17/21	43SS+5 days
45	50% OPCC	5 days	Thu 2/25/21	Wed 3/3/21	43
46	QA/QC Review of Submittal	5 days	Thu 2/25/21	Wed 3/3/21	43
47	Prepare Submittal	2 days	Thu 3/4/21	Fri 3/5/21	46
48	Submit 50% Design	0 days	Fri 3/5/21	Fri 3/5/21	47
49	District Review	10 days	Mon 3/8/21	Fri 3/19/21	48
50	**Task 7 - 90% Detailed Design**	**48 days**	**Mon 3/22/21**	**Wed 5/26/21**	
51	90% Design Drawings	30 days	Mon 3/22/21	Fri 4/30/21	14
52	90% Design Specifications	20 days	Mon 3/29/21	Fri 4/23/21	51SS+5 days
53	90% OPCC	5 days	Mon 4/26/21	Fri 4/30/21	51FF
54	QA/QC Review of Submittal	5 days	Mon 5/3/21	Fri 5/7/21	51
55	Prepare Submittal	3 days	Mon 5/10/21	Wed 5/12/21	54
56	Submit 90% Design	0 days	Wed 5/12/21	Wed 5/12/21	55
57	District Review	10 days	Thu 5/13/21	Wed 5/26/21	56
58	**Task 8 - Bid Package**	**28 days**	**Thu 5/27/21**	**Mon 7/5/21**	
59	Bid Package Drawings	20 days	Thu 5/27/21	Wed 6/23/21	15
60	Bid Package Specifications	20 days	Thu 5/27/21	Wed 6/23/21	59SS
61	Bid Package OPCC	2 days	Thu 6/24/21	Fri 6/25/21	59
62	QA/QC Review of Submittal	5 days	Thu 6/24/21	Wed 6/30/21	59
63	Prepare Submittal	3 days	Thu 7/1/21	Mon 7/5/21	62
64	Submit Bid Set	0 days	Mon 7/5/21	Mon 7/5/21	63
65	**Task 9 - Construction Bid Services**	**70 days**	Tue 7/20/21	**Mon 10/25/21**	**60**
66	Advertisement	10 days	Tue 7/20/21	Mon 8/2/21	64FS+10 days
67	Pre-bid Meeting and Site Visit	0 days	Mon 8/30/21	Mon 8/30/21	66FS+20 days
68	Prepare Addenda	25 days	Tue 8/31/21	Mon 10/4/21	67
69	Bid Date	0 days	Mon 10/11/21	Mon 10/11/21	68FS+5 days
70	Prepare Conformed Documents	15 days	Tue 10/5/21	Mon 10/25/21	68
71	**Task 10 - Detailed Surge Anlysis (Optional)**	**45 days**	**Tue 1/26/21**	**Mon 3/29/21**	
72	Surge Analysis TM - Draft	20 days	Tue 1/26/21	Mon 2/22/21	39FS+10 days
73	Surge Analysis TM - Final	15 days	Tue 3/9/21	Mon 3/29/21	72FS+10 days



Project: Project1
Date: Mon 11/23/20

Task, Split, Milestone, Summary, Project Summary, Inactive Task, Inactive Milestone, Inactive Summary, Manual Task, Duration-only, Manual Summary Rollup, Manual Summary, Start-only, Finish-only, External Tasks, External Milestone, Deadline, Progress, Manual Progress

Proposal Fee Estimate

CLIENT Name: Valley Water

PROJECT Description: Coyote Creek Chiller Project

Proposal/Job Number: B10681011 **Date:** Nov 23, 2020

On-Call Pipeline Engineering Contract - 2020 Rates	Eng-Sci-9 Faller	Eng-Sci-8 Walz	Eng-Sci-8 Mohr	Eng-Sci-8 Barraza	Eng-Sci-8 Pascua	Eng-Sci-7 Ervin	Eng-Sci-7 Harris	Eng-Sci-6 Elect/Inst	Eng-Sci-6 Structural	Eng-Sci-5 Suttich	Eng-Sci-5 Hoffman	Eng-Sci-4 Pulido	Eng-Sci-3 Staff Engineer	Eng-Sci-3 Jindra	Eng-Sci-2 Elect/Inst	Eng-Sci-2 TBD	Sr. CAD-Design	CAD-Design	Sr. CAD-Tech	Project Administrator	Total	KJ Labor	Sub Odell (survey)	Sub ENGEO (geotech)	Sub Willson Ihrig (Noise)	Sub A.G.E. Consulting	Sub FLOWSCI (surge)	KJ Sub-Markup	KJ ODCs	KJ ODCs Markup	Total Labor	Total Subs	Total Expenses	Total Labor + Subs + Expenses
Hourly Rate:	$328.23	$281.69	$281.69	$281.69	$281.69	$227.32	$227.32	$215.37	$215.37	$178.35	$178.35	$167.95	$149.28	$149.28	$117.70	$117.70	$161.13	$149.72	$139.97	$118.60	Hours	Fees	Fees	Fees	Fees	Fees	Fees	5%	Fees	5%			Fees
Task 1 - Project Management, Coordination and QA/QC																																	
A. Project Set-up and Health & Safety	2	8				4								2		2				12	30	$5,776.47									$5,776.47			$5,776.47
B. Project Oversight and Subconsultant Management	24	72			64	60										12				40	272	$65,983.31							$5,000.00	$250.00	$65,983.31		$5,250.00	$71,233.31
C. QC and C&CR	16	14	56	88	32	16	10	6	6	8						12					264	$70,106.93									$70,106.93			$70,106.93
D. Invoicing	4	36			4	18							24							24	110	$23,101.57									$23,101.57			$23,101.57
Task 1 - Subtotal	46	130	56	88	100	98	10	6	6	8			24	2		26				76	676	$164,968.28							$5,000.00	$250.00	$164,968.28		$5,250.00	$170,218.28
Task 2 - Video/Conf Call Meetings with District																																	
A. Project Kickoff Meeting	4	6	4		4	6	4						4							2	34	$8,364.14									$8,364.14			$8,364.14
B. Site Selection Workshop	6	8	6		6	6	6						8							2	48	$11,762.51									$11,762.51			$11,762.51
C.Bi-Weekly Check-in Calls	8	24	8		24	12						4	4								84	$22,331.63									$22,331.63			$22,331.63
D. Chiller Evaluation Review Meeting	3	3	3		3	3	3			3	3		3							2	29	$6,638.99									$6,638.99			$6,638.99
E. 60% Design Reiview Meeting		6	6		4	6	4													2	28	$7,017.50									$7,017.50			$7,017.50
F. 90% Design Review Meeting		6	6		4	6	4													2	28	$7,017.50									$7,017.50			$7,017.50
Task 2 - Subtotal	21	53	33		45	39	21			3	3	4	19							10	251	$63,132.27									$63,132.27			$63,132.27
Task 3 - Equipment Pre-Procurement Package(s)																																	
A. Informal RFQ	2	4	2		4	2	16	2				8	12			4				2	60	$12,176.09									$12,176.09			$12,176.09
B. Chiller Equipment Evaluation	2	4	8		4	4	32	4	4	8	8	8	12			4				2	104	$21,766.72				$5,000.00		$250.00			$21,766.72	$5,250.00		$27,016.72
C. Equipment Pre-Procurement Document Assistance		4	6		8	4	40	16	8			4	12			4				2	108	$23,412.82				$5,000.00		$250.00			$23,412.82	$5,250.00		$28,662.82
D. Equipment Pre-Procurement Bidding Support Services	2		2		4	4	8	4				4	8			4				2	42	$8,510.02									$8,510.02			$8,510.02
E. Equipment Pre-Procurement Bid Technical Review Services	2	2			4	4	8	4				4	8			4					40	$8,272.82									$8,272.82			$8,272.82
Task 3 - Subtotal	8	14	18		24	18	104	30	12	8	8	28	52			20				8	354	$74,138.47				$10,000.00		$500.00			$74,138.47	$10,500.00		$84,638.47
Task 4 - Field Investigations / Studies																																	
A. Geotechnical Investigation/Analysis/Reporting						2			8												10	$2,177.63		$48,500.00				$2,425.00			$2,177.63	$50,925.00		$53,102.63
B. Topographic Surveying and Potholing						4				4							12				20	$3,556.26	$30,700.00					$1,535.00			$3,556.26	$32,235.00		$35,791.26
C. Noise Assessment and Acoustic Consultation		4			4	2	8														18	$4,526.77			$14,300.00			$715.00			$4,526.77	$15,015.00		$19,541.77
D. Hydraulic Evaluations		8				4	4														16	$4,072.12					$22,587.00	$1,129.35			$4,072.12	$23,716.35		$27,788.47
Task 4 - Subtotal		12			4	12	12		8	4							12				64	$14,332.78	$30,700.00	$48,500.00	$14,300.00		$22,587.00	$5,804.35			$14,332.78	$121,891.35		$136,224.13
Task 5 - Design Phase Permitting Support Services																																	
City of Morgan Hills Bld Permit/Sewer Tech Support				4			4		32				8								48	$10,122.24									$10,122.24			$10,122.24
Task 5 - Subtotal				4			4		32				8								48	$10,122.24									$10,122.24			$10,122.24
Task 6 - 50% Design																																	
50% Design		5	15		43		160	173	123	123		17	210		235	77		266	67	51	1564	$265,830.44				$12,500.00		$200.00			$265,830.44	$12,700.00		$278,530.44
OPCC							8		2	16			16		6						48	$8,027.98									$8,027.98			$8,027.98
Prepare and Submit	2				2	2	2	2	2	2		2							12	16	44	$7,260.44									$7,260.44			$7,260.44
Task 6 - Subtotal	2	5	15		45	2	162	183	125	127	16	19	226		241	77		266	79	67	1656	$281,118.86				$12,500.00		$200.00			$281,118.86	$12,700.00		$293,818.86
Task 7 - 90% Design																																	
90% Design		4	13		38		142	154	109	109		15	187		209	68		236	60	45	1390	$236,293.73				$7,500.00		$100.00			$236,293.73	$7,600.00		$243,893.73
OPCC									2	16	4	12			8						42	$6,615.06									$6,615.06			$6,615.06
Prepare and Submit	2				2	2	2	2	2	2		2							12	16	44	$7,260.44									$7,260.44			$7,260.44
Respond to 60% Design Comments	4				4	4		8	8	4	4	2	8			2					48	$9,987.27									$9,987.27			$9,987.27
Task 7 - Subtotal	6	4	13		44	6	144	164	119	117	20	23	207		217	70		236	72	61	1524	$260,156.50				$7,500.00		$100.00			$260,156.50	$7,600.00		$267,756.50
Task 8 - Bid Package																																	
Bid Package		2	5		14		53	58	41	41		6	70		69	26		89	22	17	513	$87,627.57									$87,627.57			$87,627.57
OPCC									2	12			8		8						30	$4,632.75									$4,632.75			$4,632.75
Prepare and Submit		2			2	4	4			4									24	32	72	$10,813.21									$10,813.21			$10,813.21
Respond to 90% Design Comments	2				4	6		4	4	4	2	2	16			4					48	$9,135.44									$9,135.44			$9,135.44
Task 8 - Subtotal	2	4	5		20	10	57	62	45	51	14	8	94		77	30		89	46	49	663	$112,208.97									$112,208.97			$112,208.97
Task 9 - Construction Bid Services																																	
A. Pre-bid Meeting and Site Visit	2	2				6		4	4	4										2	24	$5,257.37									$5,257.37			$5,257.37
B. Address Bidder Questions and Requests	4	4			4	8		8	4	8	4	4	8								56	$11,975.73									$11,975.73			$11,975.73
C. Addenda	2	2			4	8		8	4	8	2	4	10			4		8		4	68	$12,840.75									$12,840.75			$12,840.75
D. Conformed Documents		2			2	4		2	2	4			4			4		62		16	102	$15,896.70									$15,896.70			$15,896.70
Task 9 - Subtotal	8	10			10	26		22	14	24	6	8	22			8		70		22	250	$45,970.55									$45,970.55			$45,970.55
Tasks 1 - 9 Subtotal (w/o Optional Services)	**93**	**232**	**140**	**92**	**293**	**211**	**514**	**467**	**362**	**343**	**67**	**90**	**652**	**2**	**536**	**230**	**12**	**661**	**197**	**293**	**5,486**	**$1,026,148.92**	**$30,700.00**	**$48,500.00**	**$14,300.00**	**$30,000.00**	**$22,587.00**	**$6,604.35**	**$5,000.00**	**$250.00**	**$1,026,148.92**	**$152,691.35**	**$5,250.00**	**$1,184,090.27**
Task 10 - Detailed Surge Analysis (Optional Task)																																	
Detailed Surge Anlysis (if warranted based on Prelim findings)		8				8				20											36	$7,639.12					$20,000.00	$1,000.00			$7,639.12	$21,000.00		$28,639.12
Task 10 - Subtotal		8				8				20											36	$7,639.12					$20,000.00	$1,000.00			$7,639.12	$21,000.00		$28,639.12
All Tasks Total	**93**	**240**	**140**	**92**	**293**	**219**	**514**	**467**	**362**	**363**	**67**	**90**	**652**	**2**	**536**	**230**	**12**	**661**	**197**	**293**	**5,522**	**$1,033,788.04**	**$30,700.00**	**$48,500.00**	**$14,300.00**	**$30,000.00**	**$42,587.00**	**$7,604.35**	**$5,000.00**	**$250.00**	**$1,033,788.04**	**$173,691.35**	**$5,250.00**	**$1,212,729.39**

Kennedy Jenks

Project: Valley Water -Coyote Creek Chiller Project
Building, Area: Chiller Site
Estimate Type: Conceptual x
Preliminary (w/o plans)
Design Development @ _ %

Prepared By: JLH/ZDH
Date Prepared: 23-Nov-20
K/J Proj. No. BD10681001
Current at ENR 11,455
Escalated to ENR
Months to Midpoint of Construct 15

Item No.	Description	Qty	Units	Materials $/Unit	Materials Total	Installation $/Unit	Installation Total	Sub-contractor $/Unit	Sub-contractor Total	Total
	Environmental Protections	1	LS			3,000	3,000			3,000
	Demo Existing Site Features	1	LS			3,000	3,000			3,000
	Concrete Equipment Slab 18" thick	290	CY	300	87,000	300	87,000			174,000
	Electrical/ controls									
	Allowance (% of overall proj cost)	20%	LS						1,368,106	1,368,106
	Site Work :									
	Excavation for Slab 2'	387	CY			5	1,933			1,933
	Overexcavate and Recompact	387	CY			5	1,933			1,933
	Base Course Under Slab 12"	251	CY	30	7,540	10	2,513			10,053
	Site Improvements/ Site Utilities									
	Site Imps Allowance (% of overall proj cost)	2%	LS						36,226	36,226
	Acoustical Wall		VSF							
	or Acoustical Treatment (allowance)	1	LS					125,000	125,000	125,000
	Utilities :									
	Fire Hydrant (existing)									
	Utility Water or Potable Water (incl in allowance)									
	Drain Connection	300	LF					504	151,200	151,200
	Storm Drainage (incl in allowance)									
	Packaged Chiller Systems									
	800-ton Pkgd Chiller Skids w/Cooling Tower Installation	4	EA			182,550	730,200			730,200
	Chiller Interconnection Piping:									
	10" Isolation Butterfly Valve (Process Water In/ out) Manual	8	Ea	1,400	11,200	512	4,092			15,292
	10" Piping (Process Supply/Return)	320	LF	135	43,200	214	68,496			111,696
	Flexible Connections (Process Supply/Return) 10"	8	EA	800	6,400	660	5,280			11,680
	Interconnection Piping- Chillers	4	LS	3,500	14,000	1,860	7,440			21,440
	Pipe Supports	24	EA	250	6,000	250	6,000			12,000
	Booster Pump Station (Skid 5):									
	In-line Centrifugal Pump, 2250 gpm, 50 hp	3	EA	18,000	54,000	5,400	16,200			70,200
	14" dual-disc check valve	3	EA	4,000	12,000	770	2,310			14,310
	14" Butterfly Valves	6	EA	2,500	15,000	725	4,349			19,349
	14" Flexible Connectors	6	EA	1,000	6,000	660	3,960			9,960
	Automatic Strainers 14", 2250 gpm	3	EA	30,000	90,000	15,000	45,000			135,000
	50 hp VFD motor starter, NEMA 4X	3	EA	12,000	36,000					36,000
	Interconnecting Piping -14"	100	LF	150	15,000	300	29,967			44,967
	Header Piping - 24"	1	LS	20,000	20,000	10,000	10,000			30,000
	Pipe Supports	9	EA	250	2,250	250	2,250			4,500
	Exchanger Bypass Flow Meter:									
	24" Flow meter	1	EA	16,000	16,000	2,640	2,640			18,640
	24" check Valve	1	EA	65,000	65,000	3,552	3,552			68,552
	24" Motorized Valve, modulating	1	EA	18,000	18,000					18,000
	24" Isolation Valve	2	EA	10,500	21,000	1,320	2,640			23,640
	24" Tee Fittings	2	EA	3,000	6,000	2,000	4,000			10,000
	24" Misc. Piping	20	LF	305	6,090	619	12,386			18,476
	Discharge Flow Meter:									
	24" Flow Meter	1	EA	16,000	16,000	2,640	2,640			18,640
	24" Isolation Valves	2	EA	10,500	21,000	1,320	2,640			23,640
	Subtotals				594,680		1,065,422		1,680,532	3,340,634
	Division 1 Costs @	10%								334,063
	Subtotals									3,674,697
	Taxes - Materials @	9.00%								53,521
	Subtotals									3,728,218
	Contractor OH&P @	15%								559,233
	Subtotals									4,287,451
	Contractor Bonds & Ins @	2.5%								107,186
	Subtotals									4,394,637
	Estimate Contingency @	25%								1,098,659
	Subtotal									5,493,297
	Escalate to Midpt of Const. @	4.0%								274,665
	Estimated Bid Price									5,767,962
	Total Estimate - (rounded)									5,770,000

SUMMARY		
Chiller Site - Cooling Tower Option		5,770,000
Owner Prepurchase of Chiller Package (includes sales tax)		5,310,000 Including Sales Tax
Connection Pipeline 24" (To/ From Site) Approx 100 LF		125,000
Connections to Existing 42" Coyote Pipeline (2 - 24" connections)		233,000
Estimated Construction Cost Total		**11,438,000**

Estimate Accuracy	
+30%	-20%

Estimated Range of Probable Cost		
+30%	Total Est.	-20%
$14,869,400	**$11,438,000**	**$9,150,400**

OPCC Summary for the Coyote Creek Chiller Project, Nov 23, 2020
Valley Water

Cost Items	OPCC	Description
Owner Prepurchase of Chiller Package (includes sales tax)	5,310,000	Cost includes budget pricing plus 9% sales tax with no additional contingence
Booster Pump Station (Skid 5):	629,487	Includes Two 2250 gpm, 50 Hp Centrifugal Pumps, 14-inch valves, auto strainers, header piping and supports
Equipment Installation	1,261,786	Estimated at 15% of equip costs
Chiller Interconnection Piping:	297,058	Includes 10-inch piping, valves, interconnect piping and supports
Concrete Equipment Slab 18" thick	300,498	Equipment bases
Flow Meters and Vaults	344,688	Includes Two 24-inch flow meters, isolation valves, vaults to/from chillers
Site Work/Utilities	563,600	Includes acoustic wall, excavation, drain piping, site improvements
Connection Pipeline 24" (To/ From Site) Approx 100 LF	125,000	24-inch site piping to/from Coyote Pipeline (est apprx 100 ft)
Connections to Existing 42" Coyote Pipeline (2 - 24" connections)	233,000	Connection to existing PCCP pipe
Environmental Protections	5,181	
Demo Existing Site Features	5,181	
Electrical/ controls	2,362,718	Estimated at 20% of raw cost
Total	11,438,197	